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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/035,954	12/26/2001	Robert C. Meier	72255-11670	3569
23380	7590	10/12/2005	EXAMINER	
TUCKER, ELLIS & WEST LLP 1150 HUNTINGTON BUILDING 925 EUCLID AVENUE CLEVELAND, OH 44115-1475			TRAN, NGHI V	
			ART UNIT	PAPER NUMBER
			2151	

DATE MAILED: 10/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/035,954

Applicant(s)

MEIER, ROBERT C.

Examiner

Nghi V. Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5,9-17,19 and 20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5,9-17,19 and 20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4 are rejected under 35 U.S.C. 102(e) as being anticipated by Magret, U.S. Patent No. 6,856,624 (hereinafter Magret), in view of Hanson et al., U.S. Patent No. 6,546,425 (hereinafter Hanson).

3. With respect to claim 1, Magret teaches a method for a DHCP client to send a DHCP request to a DHCP server via a BOOTP Relay Agent, the DHCP client contained in a Mobile Host having a MAC address and having MAC layer connectivity with a foreign agent having a MAC address and a care of IP address, the BOOTP Relay Agent being coupled to a home agent having an address [see abstract and figs.1, 7-10], the steps comprising:

A) sending a mobile IP Registration Request message and a Mobile IP Registration Reply message to establish a Mobile IP forward tunnel and a Mobile IP reverse tunnel [col.5, ln.4 - col.6, ln.43], the Mobile IP Registration Request having a Mobile Host Identifier that is set to the MAC address of the Mobile Host, and the Mobile

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IP Registration Reply message having a Mobile Host Identifier that is set to the address of the Mobile Host, wherein the MAC address of the Mobile Host is used to identify mobility bindings for the Mobile Host [col.6, Ins.43-57 and col.7, Ins.39-48];

B) generating a DHCP request, the DHCP request having a protocol field and a source IP address, the protocol field containing the MAC address of the Mobile Host [col.6, Ins.43-57 and co.7, Ins.39-48];

C) sending the DHCP request to the foreign agent [col.5, Ins.65-66];

D) adding an encapsulation header by the foreign agent [col.7, Ins.19-26 and col.8, Ins.4-10];

E) sending the request to the home agent [col.11, ln.60 - col.12, ln.13];

F) removing the encapsulation header [col.12, Ins.13-15]; and

G) forwarding the request to a home subnet [col.12, Ins.16-19].

However, Magrét does not explicitly teach the source IP address is zero.

In a method for DHCP, Hanson suggests the source IP address is zero [col.35, ln.11 - col.36, ln.48].

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Magret in view of Hanson by setting zero to the source IP address because this feature indicates that the message originated on the same subnet as the listener [Hanson, col.35, Ins.30-31]. It is for this reason that one of ordinary skill in the art at the time of the invention would have been motivated in order to be on the same subnet.

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4. With respect to claim 2, Magret further teaches the steps further comprising:

H) generating a DHCP reply, the DHCP reply having a protocol field, the protocol field containing the MAC address of the Mobile Host [col.5, ln.62 - col.6, ln.56];

I) sending the DHCP reply across the home subnet to the home agent [col.6, ln.6-20];

J) adding an encapsulation header to the reply by the home agent [col.6, ln.21-31];

K) forwarding the reply to the foreign agent [col.11, ln.60-67];

L) removing the encapsulation header by the foreign agent [col.8, ln.4-38 and col.12, ln.9-13]; and

M) forwarding the reply to the mobile host [col.12, ln.14-19].

5. With respect to claim 3, Magret further teaches the encapsulation header added to the DHCP request is an IP encapsulation header having a source field containing the IP address of the foreign agent and a destination field containing the IP address of the home agent [figs.5-6 and col.8, ln.47 - col.9, ln.44].

6. With respect to claim 4, Magret further teaches the encapsulation header added to the DHCP reply is an IP encapsulation header having source field containing the IP address of the home agent and a destination field containing the IP address of the foreign agent [figs.5-6 and col.8, ln.47 - col.9, ln.44].

7. Claims 5, 9-17, 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Magret, in view of W. Wimer, RFC 1432 (hereinafter Wimer), and further in view of Hanson.

8. With respect to claims 5, 9-17, 19-20, Magret teaches a method for a DHCP client to send a DHCP request to a DHCP server via a BOOTP Relay Agent, the DHCP client contained in a Mobile Host having a MAC address and having MAC layer connectivity with a foreign agent having a MAC address and a care of IP address, the BOOTP Relay Agent being coupled to a Home Agent having an address [col.6, Ins.43-57 and col.7, Ins.39-48], the steps comprising:

A) establishing a Mobile IP reverse tunnel by sending a Mobile Host Registration request with a Mobile Host Identifier that is set to the MAC address of the Mobile Host, wherein the MAC address of the Mobile Host is used to identify mobility bindings for the Mobile Host [see abstract; col.5, ln.4 - col.6, ln.43; col.2, Ins.27-57];

B) establishing a Mobile IP forward tunnel by sending a Mobile Host Registration Reply request with a Mobile Host Identifier that is set to the MAC address of the Mobile Host, wherein the MAC address of the Mobile Host is used to identify mobility bindings for the Mobile Host [col.5, ln.4 - col.6, ln.43; col.3, ln.44 - col.4, ln.25];

E) adding an inner encapsulation IP header and an outer encapsulation IP header to the DHCP request, the inner IP encapsulation header having a source IP address and a destination IP address [col.7, Ins.19-26; col.8, Ins.39-48; and figs.2-4];

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F) setting the inner IP encapsulation header source address to indicate that the source station does not have an IP address [col.7, Ins.19-26 and col.8, Ins.39-48]; and

G) sending the DHCP request to the MAC address of the foreign agent [col.5, Ins.65-66];

H) examining the inner IP encapsulation header source IP address [col.3, Ins.11-34; ];

I) adding an outer IP encapsulation header, the outer IP encapsulation header having a source address and a destination address [col.3, ln.44 - col.4, ln.26];

J) setting the outer IP encapsulation header source address to the foreign agent IP address and the outer IP encapsulation header destination address to the home agent IP address [col.6, Ins.21-64];

K) forwarding the request to the home agent [col.7, Ins.19-26];

L) removing the outer IP encapsulation header [col.6, Ins.16-18];

M) examining the inner IP encapsulation header source address [col.7, Ins.19-26; col.8, Ins.4-38]; and

N) removing the inner IP encapsulation header [col.6, Ins.19-20]; and

O) forwarding the request to a BOOTP relay agent coupled to the home agent [col.6, ln.18];

R) forwarding the DHCP request to the DHCP server [fig.1].

However, Magret does not explicitly teach the source IP is set to 0 and silent on the following steps:

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C) generating a DHCP request, the DHCP request having a giaddr field and a protocol field;

D) setting the giaddr field to 0 and the protocol field to the MAC address of the Mobile Host;

P) obtaining the MAC address of the mobile host from the chaddr field in the BOOTP header; and

Q) inserting the BOOTP relay agent IP address into the giaddr field of the BOOTP header;

In DHCP method, Wimer discloses the following steps:

C) generating a DHCP request, the DHCP request having a giaddr field and a protocol field [pg.4];

P) obtaining the MAC address of the mobile host from the chaddr field in the BOOTP header [pgs.5&11 i.e. chaddr (Client Hardware Address) = MAC address]; and

Q) inserting the BOOTP relay agent IP address into the giaddr field of the BOOTP header [pgs. 7&10];

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Magret in view of Wimer by setting the giaddr field to 0 and inserting the BOOTP relay agent IP address into the giaddr field, and obtaining the MAC address of the mobile host from the chaddr field because this feature encourages more flexible configuration schemes without rebroadcast the BOOTREQUEST on the physical interface from whence it came [Wimer, page 10]. It is for this reason that one of ordinary skill in the art at the time of the invention would have



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been motivated to modify Magret in view of Wimer in order to use the same destination (or set of destinations) for all BOOTREQUEST message it relays from a given client [Wimer, page 10].

On the other hand, both Magret and Wimer fail to teach or suggest the step D) setting the giaddr field to 0.

In DHCP method, Hanson suggests setting the giaddr field to 0 and setting the source IP address to zero [col.35, ln.10 - col.36, ln.48].

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify both Magret in view of Wimer, and further in view of Hanson by setting zero to the source IP address because this feature indicates that the message originated on the same subnet as the listener [Hanson, col.35, lns.30-31]. It is for this reason that one of ordinary skill in the art at the time of the invention would have been motivated in order to be on the same subnet.

### ***Response to Arguments***

9. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nghi V. Tran whose telephone number is (571) 272-4067. The examiner can normally be reached on Monday-Friday.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zarni Maung can be reached on (571) 272-3939. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Patent Examiner  
Art Unit 2151

NT

  
**ZARNI MAUNG**  
SUPERVISORY PATENT EXAMINER